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TEN NEW SPECIES OF GALL MIDGES OF THE GENUS *CAMPTOMYIA* KIEFFER (DIPTERA, CECIDOMYIIDAE) FROM EAST PALAEARCTIC REGION

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Ten new species of gall midges belonging to genus *Camptomyia* Kieffer are described from East part of Russia.

KEY WORDS: Diptera, gall midges, new species, Russia.

Б.М. Мамаев¹⁾, А.И. Зайцев²⁾. Десять новых видов галлиц рода *Camptomyia* Kieffer (Diptera, Cecidomyiidae) из Восточной Палеарктики // Дальневосточный энтомолог. 1998. N 62. С. 1-12.

Из восточных районов России описываются 10 новых видов рода *Camptomyia* Kieffer.

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INTRODUCTION

According to M. Skuhrava (1986) the genus *Camptomyia* contained of 39 Palaearctic species, including 3 species from Japan (Yukawa, 1971) and 3 species from Russian Far East (Mamaev, 1972; 1975a; 1975b). V. Spungis (1989) revised European species of this genus. He concluded that 10 species are *nomina invalida*, described 7 new species and led to conclusion that European fauna of *Camptomyia* numbers 24 valid species. This author described one species - *C. mamaevi* Spungis distributed in Latvia, Moscow region and Far East, probably transpalaearctic. Additional species from Kamchatka - *C. stylosa* Mamaev was described by B. Mamaev (1994). At present the genus *Camptomyia* contains of 24 valid European species and 8 species distributed in the East Palaearctic region: *C. albidula* Mamaev, *C. breviradicis* Yukawa, *C. cognata* Mamaev, *C. mamaevi* Spungis, *C. maritima* Mamaev, *C. shibuyai* Yukawa, *C. spinifera* Mamaev, *C. stylosa* Mamaev.

We collected 10 new species in east part of Siberia and Far East of Russia, including Kunashir Island (Kuril Islands). We use comprehensive diagnosis of the genus *Camptomyia* published by B. Mamaev (1961), S. Panelius (1965) and J. Yukawa (1971) without repeating it once more. The subdivision of the genus into subgenera proposed by B. Mamaev (1961). The holotypes and paratypes of new species are deposited in the Mamaev's collection (All-Russian Institute of Continuous Education in Forestry, Pushkino, Russia).

DESCRIPTION OF NEW TAXA

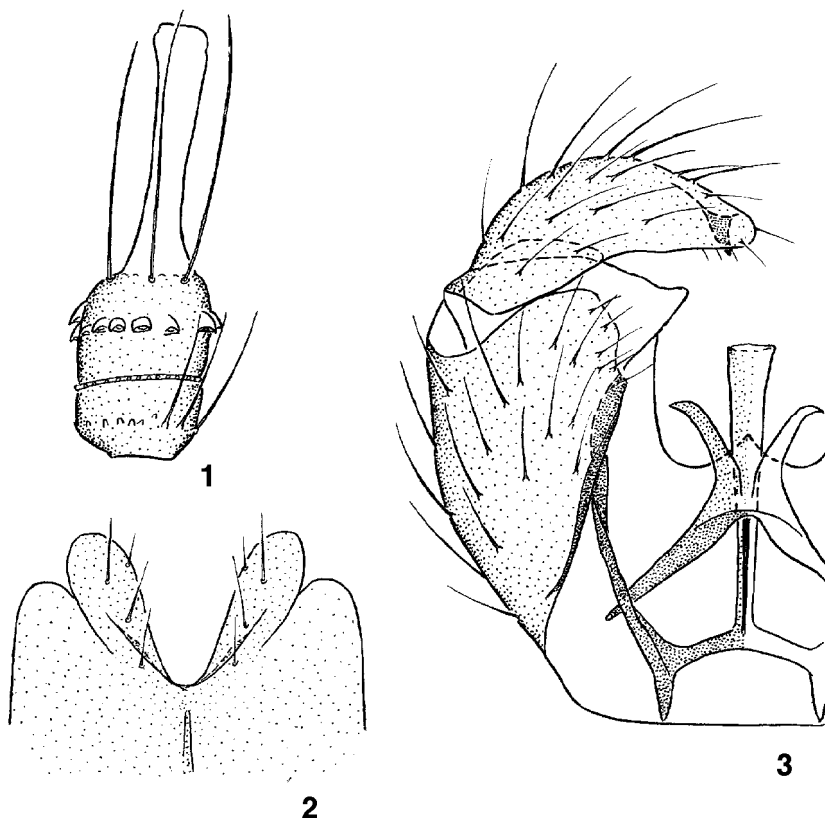
***Camptomyia* (*Neocamptomyia*) *denticuligera* Mamaev et Zaitzev, sp.n.**

Figs 1-3.

MATERIAL. Holotype: ♂, Russia, Far East, Ussuriysky Reserve, larvae under decaying bark of *Phellodendron amurense*, 14.IX 1964 (B. Mamaev). Paratypes: 1 ♂, 1 ♀, the same data as holotype.

DESCRIPTION. Male. Yellowish-brown, length of wing 2.8 mm. Eye bridge 14-16 ommatidia-broad; antennae with 2+21 segments, basal enlargement of middle antennal segments subcylindric, 1.3 times as long as broad, stem distinctly longer than basal enlargement, covered with microtrichiae; large horse-shoe-shaped sockets of basal enlargement in one row, small sockets in cluster on frontal surface of segment; ring-shaped sensoria simple; ultimate segment small, with long pear-shaped apical appendage; palpi 4-segmented with ratio 1.0:1.5:3.0:3.2; thorax with brown notum; wing venation of ordinary type but M3+4 very weak and hardly visible; hind femur 1.5 times as long as tibia, tarsi broken.

Coxites of genitalia with w-shaped median incision and triangular lobe medio-apically; styles elongated with large, acute subapical dent; 9th tergite with two round bare lobes; parameres short, divergent; genital rod T-shaped basally, with transparent apical cup; roots of apodeme short.



Figs 1-3. *Camptomyia denticuligera* sp. n. 1) 10th segment of male flagellum, 2) 9th tergite of male, 3) male genitalia, dorsal view (9th tergite removed).

Female (additional characters). Antennae 2+22-segmented; segments with short neck and sensoria forming 2 rings; ovipositor curved upwards, terminal segment of lamella with two strong setae.

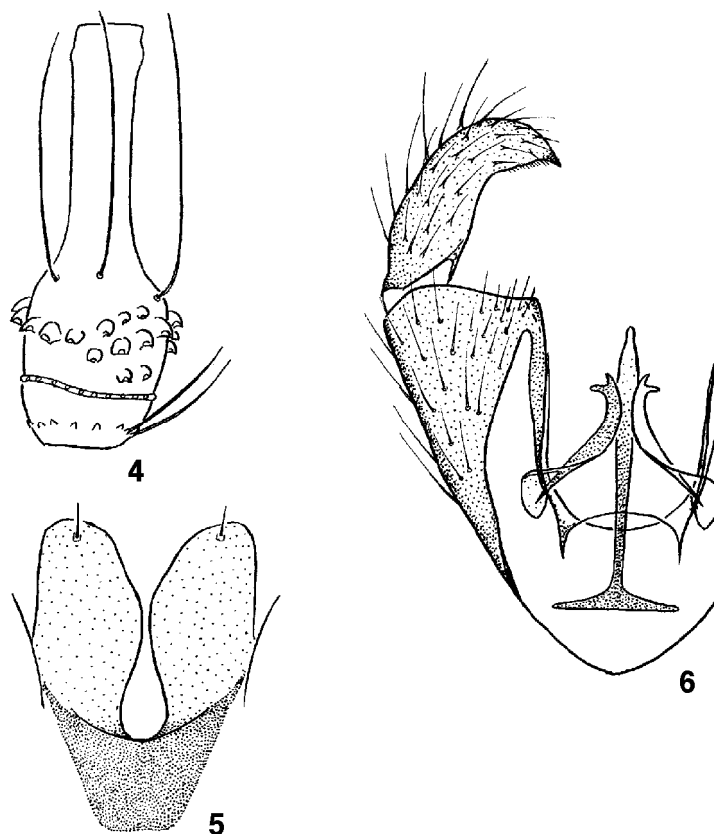
DIAGNOSIS. This species is unique according to shape of dentiferous style of male genitalia.

***Camptomyia (Neocamptomyia) furcellata* Mamaev et Zaitzev, sp. n.**

Figs. 4-6

MATERIAL. Holotype: ♂, Russia, Far East, "Kedrovaya Pad" Reserve, netting, 17.VIII 1962 (O. Kovalev). Paratype: ♂, Russia, Krasnodar Territory, Sober-Oash mountain, netting, 16.VI 1953 (B. Mamaev).

DESCRIPTION. Male. Yellow-brown, length of wing 3.2 mm. Eye bridge 14-16 ommatidia-broad; antennae with 2+25 (holotype) – 2+23 (paratype) segments; basal enlargement of middle antennal segments subovoid, slightly



Figs 4-6. *Camptomyia furcellata* sp. n. 4) 10th segment of male flagellum, 5) 9th tergite of male, 6) male genitalia, dorsal view (9th tergite removed).

longer than broad, stem 1.3 times as long as basal enlargement, without microtrichiae, large horse-shoe-shaped sockets and sensoria as in above-described species; ultimate segment with cone-shaped apical appendage; palpi very thin 4-segmented, with ratio 1.0:2.0:4.0:4.5; thorax with brown notum; wing venation of ordinary type, all veins distinct; legs 2.5 times as long as wing; hind femur 1.3 times as long as tibia, tarsal claw bifid, empodium narrow, slightly shorter than claw.

Coxites of male genitalia long and slender with deep round median emargination; styles elongated, with curved apical part and black pectinate claw; 9th tergite with deep pear-shaped median incision and bare lobes; parameres bifurcated apically; genital rod T-shaped basally, linear, with transparent apical cup; anteriorly projecting roots of apodeme short, only 0.3 times as long as distance separating them.

Female. Unknown.

***Camptomyia (Neocamptomyia) sajanorum* Mamaev et Zaitzev, sp. n.**

Fig. 7

MATERIAL. Holotype: ♂, Russia, Tuva, Ishtii-Khem, netting, 9.VIII 1973 (B. Mamaev).

DESCRIPTION. Male. Yellow with brown notum, length of wing 2.3 mm. eye bridge 8 ommatidia-broad; antennae with 2+14 segments; basal enlargement of middle antennal segments cylindric, 2.0 times as long as broad; stem 1.1 times as long as basal enlargement, without microtrichiae; horse-shoe-shaped sockets of basal enlargement in 1-2 rows, ring-shaped sensoria simple; ultimate segment small, with finger-shaped appendage; palpi long, 4-segmented; wing venation of ordinary type, all veins pigmented; legs 2.0 times as long as wing, hind femur 2.3 times as long as tibia; tarsal claw bifid, empodium narrow, slightly shorter than claw.

Coxites of male genitalia with broad w-shaped median emargination; styles thick in the middle, tapering to base and to apex with black pectinate claw; 9th tergite with shallow median excavation, lobes covered with microtrichiae, parameres digitated, genital rod T-shaped basally, with transparent apical cup; roots of apodeme short and thick.

Female. Unknown.

DIAGNOSIS. Similar to *C. unisaetosa* Spungis, but new species with peculiar shape of gonostyle, w-shaped median emargination and without microtrichiae on stems of middle antennal segment.

***Camptomyia (Paracamptomyia) accepta* Mamaev et Zaitzev, sp. n.**

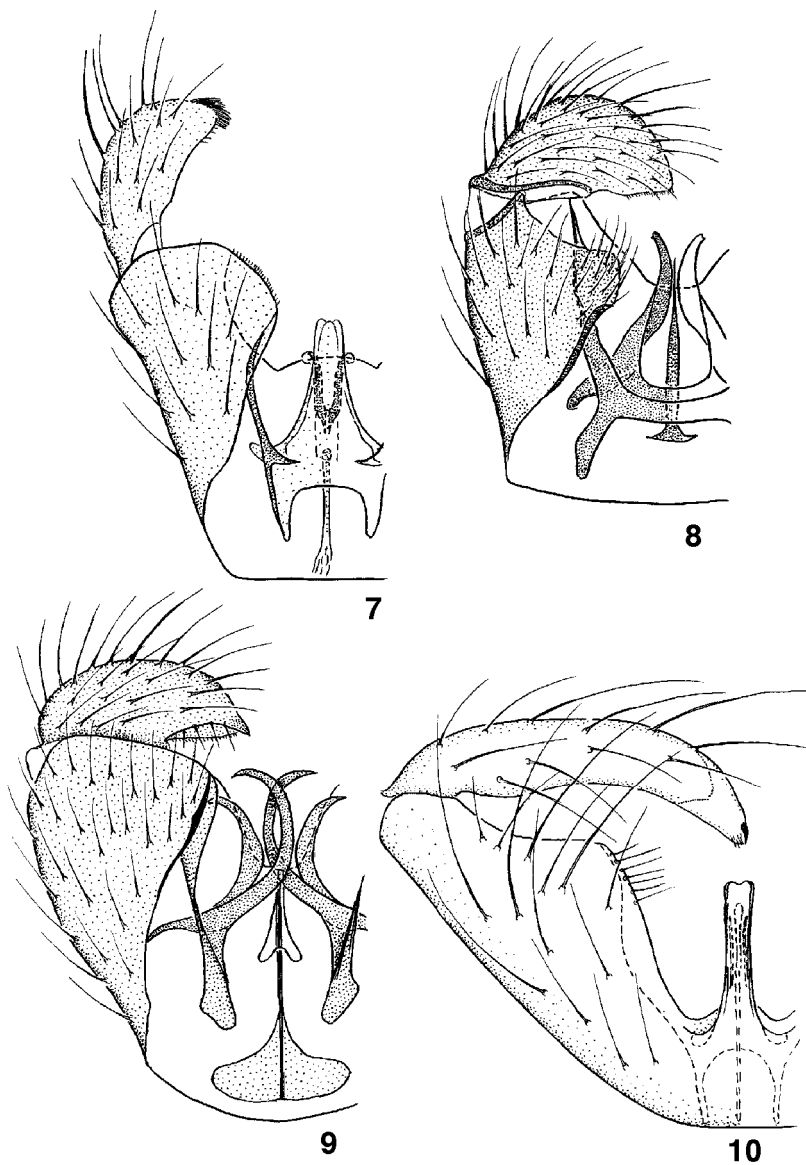
Fig. 8

MATERIAL. Holotype: ♂, Russia, Far East, Ussuriysky Reserve, netting, 30.IX 1964 (B. Mamaev). Paratypes: 5 ♂, the same data as holotype.

DESCRIPTION. Male. Brown with dark brown notum, length of wing 3.0 mm. Eye bridge 12-14 ommatidia-broad; antennae with 2+18 to 2+21 segments; basal enlargement of middle antennal segments cylindric, 1.4 times as long as broad, stem 1.6 times as long as basal enlargement, without microtrichiae; horse-shoe-shaped sockets in one irregular row and in cluster on frontal surface of basal enlargement; ring-shaped sensoria simple; ultimate segment as long as penultimate, tapering to apex or fused with penultimate segment; palpi 4-segmented with ratio 1.0:1.3:2.0:2.0; veins of wing brown, distal part of M1+2 distinct; legs 2.0 times as long as wing, hind femur slightly longer than tibia; tarsal claw bifid, empodium thin, as long as claw.

Coxites of male genitalia thick, with round shallow median emargination, styles short, thick, tapering to apex, without dark claw; 9th tergite with round margin and pigmented median line, parameres strong, needle-shaped, curved outside; genital rod only 0.5 times as long as coxites, with T-shaped basal part; roots of apodeme well sclerotized, strong and acute.

Female. Unknown.



Figs 7-10. *Camptomyia*: 7) *C. sajanorum* sp. n., 8) *C. accepta* sp. n., 9) *C. mucronata* sp. n., 10) *C. conformis* sp. n. 7-9) male genitalia, dorsal view (9th tergite removed), 10) male genitalia, ventral view.

DIAGNOSIS. In contrast with *C. populicola* Mamaev and *C. salicicola* Mamaev, 9th tergite of new species without emargination, parameres long and strongly sclerotized, empodium thin, not protruded over tarsal claw.

***Camptomyia (Paracamptomyia) mucronata* Mamaev et Zaitzev, sp. n.**

Fig. 9

MATERIAL. Holotype: ♂, Russia, Far East, Ussuriysky Reserve, larvae under bark of decaying ash stump, 39.IV 1967 (B. Mamaev). Paratypes: 15 ♂, the same data as holotype.

DESCRIPTION. Male. Brown, with dark notum; length of wing 3.2 mm. Eye bridge 12-14 ommatidia-broad; antennae with 2+21 or 2+22 segments; basal enlargement of middle antennal segments subcylindric, 1.2 times as long as basal enlargement, without microtrichiae; large horse-shoe-shaped sockets on basal enlargement in one row, small sockets in cluster on frontal surface of segments; ring-shaped sensoriae simple; ultimate segment small, cone-shaped, sometimes fused with penultimate; palpi 4-segmented with ratio 1.0:1.3:2.4:2.6; wing venation of ordinary type, all veins distinct; legs more than 2.0 times as long as tibia; tarsal claw bifid; empodium thick, protruded dorsally over tarsal claw.

Coxites of male genitalia thick, tapering to apex with small dark pectinate claw and narrow subapical lobe; 9th tergite with round margin, small median incision and pigmented median line; parameres long and thick, bifurcated basally and strongly curved, middle branches of parameres overlapping; genital rod long, with large basal thickening; roots of apodeme long and thick.

Female (additional characters). Antennae with 2+21 to 2+26 segmented; segments with short stem; sensoriae forming 2 rings; ovipositor curved upwards; terminal segment of lamella with long bristles.

DIAGNOSIS. This species is unique according to shape of bifurcated parameres and gonostyle with subapical lobe.

***Camptomyia (Camptomyia) conformis* Mamaev et Zaitzev, sp. n.**

Fig. 10

MATERIAL. Holotype: ♂, Russia, Far East, "Kedrovaya Pad" Reserve, larvae under decayed bark of pine, 23.VIII 1964 (B. Mamaev). Paratypes: 1 ♂, 2 ♀, the same data as holotype; 1 ♂, same region and Reserve, larvae under decayed bark of ash, 10.IX 1964; 2 ♂, 5 ♀, Russia, Kuril Is., Kunashir I., larvae under bark of elm, 23.IX 1978; 1 ♂, 2 ♀, Kunashir I., larvae under bark of alder, 8.V 1977 (B. Mamaev).

DESCRIPTION. Male. Pale yellow, thorax without dark pattern, with deep excavation anteriorly; length of wing 3.0 mm. Eye bridge 11-13 ommatidia-broad; antennae with 2+17 segments, basal enlargement of middle antennal segments cylindric, 2.0 times as long as broad, stem 1.2 times as long as basal enlargement, without microtrichiae, horse-shoe-shaped sockets on basal enlargement in one row and in cluster on frontal surface of segments; ring-shaped sensoria very thin, simple; ultimate segment usually fused with penultimate one; palpi very long, 4-segmented with ratio 1.0:1.8:3.4:3.4; wing venation of ordinary type, wing narrow, veins weakly pigmented; legs 2.2 times

as long as wing; hind femur 1.2 times as long as tibia; tarsal claw bifid; empodium as long as claw.

Coxites of male genitalia long, somewhat triangular, with deep and broad median emargination; coxites very long and slender, with dark terminal claw; 9th tergite with round margin and shallow median incision; tegmen long, finger-shaped, genital rod and apodemic roots unsclerotized.

Female (additional characters). Antennae with 2+22 to 2+25-segmented, segments with short stem, sensoria collar-shaped, forming 2 rings; ovipositor long, curved upwards, terminal segment of lamella with 2 strong spines.

DIAGNOSIS. Specific morphology of thorax with frontal excavation, discoloration of body and very long styles.

***Camptomyia (Camptomyia) derivata* Mamaev et Zaitzev, sp. n.**

Fig. 11

MATERIAL. Holotype: ♂, Russia, Far East, Ussuriysky Reserve, larvae in decaying wood of linden, 17.V 1967 (B. Mamaev). Paratypes: 19 ♂, 10 ♀, the same data.

DESCRIPTION. Male. Light brown with darker notum, length of wing 3.2 mm. Eye bridge 16-18 ommatidia-broad; antennae with 2+28(29) segments, basal enlargement of middle antennal segment round, as long as broad, stem 2.0 times as long as basal enlargement, bare, horse-shoe-shaped sockets in one row and in cluster on the frontal surface of segment; ring-shaped sensoria thin and indistinct; ultimate segment cone-shaped, sometimes sessile; palpi 4-segmented with ratio 1.0:1.5:2.8:3.0; wing venation of ordinary type; leg 2.8 times as long as wing, hind femur 1.4 times as long as tibia; tarsal claw bifid, empodium rudimentary.

Coxites of male genitalia long, triangular, styles with parallel sides, tapering distally, with broad pectinate claw; 9th tergite short, with small median incision, parameres curved, weakly sclerotized, genital rod weakly sclerotized, with two needle shaped structures on each side; roots of apodeme weakly sclerotized, short, divergent.

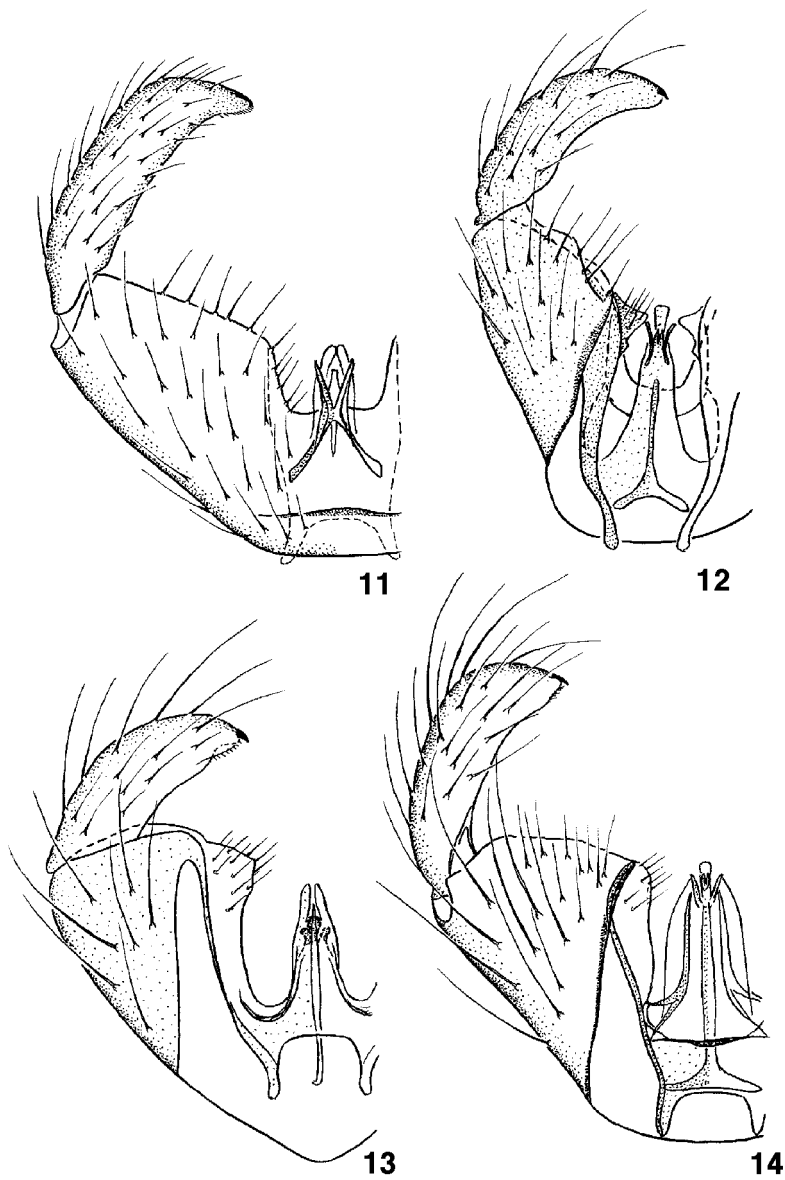
Female (additional characters). Antennae with 2+36(37) segments, stem of middle segments 0.4 times as long as basal enlargement; sensoriae forming 2 rings; ovipositor curved upwards; terminal segment of lamella with 2 thick bristles.

DIAGNOSIS. New species with rudimentary empodium, round basal enlargement of male antennal segments and peculiar male genitalia.

***Camptomyia (Camptomyia) drymophila* Mamaev et Zaitzev, sp. n.**

Fig. 12

MATERIAL. Holotype: ♂, Russia, Far East, "Kedrovaya Pad" Reserve, netting, 17.VIII 1962 (O. Kovalev). Paratypes: ♂, the same data as holotype; ♂, the same place, 24.VIII 1962 (O. Kovalev).



Figs 11-14. *Camptomyia*: 11) *C. derivata* sp. n., 12) *C. drymophila* sp. n., 13) *C. incognita* sp. n., 14) *C. subepidermis* sp. n. 11) male genitalia, ventral view, 12-14) male genitalia, dorsal view (9th tergite removed).

DESCRIPTION. Male. Yellow with brownish notum, length of wing 3.0 mm. Eye bridge 12-14 ommatidia-broad; antennae with 2+19 segments, basal enlargement of middle antennal segments subcylindric, 1.5 times as long as broad; stem almost 1.8 times as long as basal enlargement, base of stem covered with microtrichiae, horse-shoe-shaped sockets in one irregular row and in cluster on the frontal surface of segment; ring-shape sensoriae distinct; ultimate segment variable: cone-shaped or with long finger-shaped appendage; palpi 4-segmented, with ratio 1.0:1.5:2.4:2.4; wing venation of ordinary type, leg 2.1 times as long as wing, hind femur 1.2 times as long as tibia, tarsal claw bifid, empodium thick, protruded dorsally over tarsal claw.

Coxites of male genitalia long, triangular with very deep incision separating tegmen; styles long tapering in distal half; with black claw; 9th tergite with shallow triangular incision; parameres short, slightly curved, genital rod weakly sclerotized, T-shaped basally, with transparent cup distally; roots of apodeme short, thick, weakly sclerotized.

Female. Unknown.

DIAGNOSIS. New species is unique: stem of flagellar segments long, thin, covered with microtrichiae basally, style with entire (not pectinate) black claw, genital rod and roots of apodeme very weakly sclerotized. Similar species, *C. corticalis* Loew in contrast to new species with yellow notum and bare stems.

***Camptomyia (Camptomyia) incognita* Mamaev et Zaitzev, sp. n.**

Fig. 13

MATERIAL. Holotype: ♂, Russia, Kuril Is., Kunashir I., Mendeleevo, larvae under bark of birch, 15.IX 1973 (B. Mamaev). Paratypes: 2 ♀, the same data as holotype.

DESCRIPTION. Male. yellow with yellow or yellowish brown notum, length of wing 3.0 mm. Eye bridge 15 ommatidia-broad, antennae with 2+17 segments, basal enlargement of middle antennal segments subcylindric, 1.4 as long as broad, stem 1.6 as long as basal enlargement, horse-shoe-shaped sockets small, round, in one row; ring-shaped sensoria broad especially on basal segments; palpi 4-segmented with ratio 1.0:1.3:2.0:2.2; wing broad, wing venation of ordinary type; leg 2.1 times as long as wing, hind femur 1.2 times as long as wing; tarsal claw bifid, empodium thick, as long as claw.

Coxites of male genitalia broad, triangular with very deep median incisions; styles almost 3.0 times as long as broad, sharply tapering to apex with dark claw of fused setae; 9th tergite broad with median emargination; tegmen and genital rod weakly sclerotized; parameres very short, roots of apodeme desclerotized.

Female (additional characters): Antennae with 2+23 segments, neck of flagellar segments 0.3 times as long as basal enlargement; sensoria very thick, collar-shaped; ovipositor long, curved upwards.

DIAGNOSIS. In contrast to *C. corticalis* Loew and other species horse-shoe-shaped sockets of male antennal segments small and round, sensoria of females collar-shaped, style of male genitalia with beak-shaped terminal part.

***Camptomyia (Camptomyia) subepidermalis* Mamaev et Zaitzev, sp. n.**

Fig. 14

MATERIAL. Holotype: ♂, Russia, Far East, Kedrovaya Pad reserve, larvae under epidermis of bark of ash, 27.VIII 1964, (B. Mamaev). Paratype: ♀, the same data.

DESCRIPTION. Male. Yellow with brown notum, length of wing 3.0 mm. Eye bridge 11 ommatidia-broad; antennae with 2+20 segments, basal enlargement of middle antennal segments subcylindric 1.3 times as long as broad, stem 1.2 times as long as basal enlargement, with base covered with microtrichiae, horse-shoe-shaped sockets large, in one row and in cluster on the frontal surface of segment; ring-shaped sensoria thin; ultimate segment compound, longer than penultimate, with whorl of horse-shoe-shaped sockets; palpi 4-segmented, deformed; wing venation of ordinary type, leg 1.8 times as long as wing; hind femur 1.2 times as long as tibia; tarsal claw bifid, empodium thick, protruded dorsally over tarsal claw.

Coxites of male genitalia broad, triangular, with median incision 0.5 times as long as coxites; styles long, somewhat broadened apically and sharply tapering towards the end with dark pectinate claw; 9th tergite with round caudal margin and dark median line; tegmen and short parameres sclerotized; genital rod with T-shaped base, linear, with apical transparent cup; roots of apodeme thick.

Female (additional characters). Antennae with 2+20 segments, neck of segments very short, 0.25 times as long as basal enlargement, ovipositor thick and short, 0.3 times as long as abdomen, slightly curved upwards.

DIAGNOSIS. Similar to above described species, but morphology of male genitalia and ovipositor is quite different: tegmen nearly as long as gonocoxite, genital rod with T-shaped basal part, ovipositor only 0.3 times as long as abdomen.

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